

Revision Sheet

Pearson Edexcel · International A-Level · Physics · Unit 1 Mechanics and Materials

24 vocabulary items · 15 marks of exam questions (7 questions)

Part 1 · Vocabulary review answer key. Section A wants the exact English spelling.

Question	Answer	Marks
1	forces	1
2	momentum	1
3	energy	1
4	displacement	1
5	distance	1
6	velocity	1
7	speed	1
8	acceleration	1
9	area	1
10	equilibrium	1
11	projectile	1
12	weight	1
13	terminal velocity	1
14	drag	1
15	kinetic energy	1
16	power	1
17	efficiency	1
18	density	1
19	viscosity	1
20	stiffness	1
21	stress	1
22	strain	1
23	Young modulus	1
24	limit of proportionality	1

Multiple Choice Answers

Q25: D

Q26: D

27	The correct answer is C (mass × velocity) A is incorrect because mass is a scalar B is incorrect because work is a scalar D is incorrect because extension is a scalar	1
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Multiple Choice Answers

Q28: A

Q29: A

30(a)	Calculates volume of seawater displaced (1) Use of $\rho = m / V$ and Use of $W = mg$ (1) Weight of block = $2.4 \times 10^8 \text{ N}$ (1) <u>Example of calculation</u> Volume displaced = $3\,500 \text{ m}^2 \times 6.7 \text{ m} = 2.35 \times 10^4 \text{ m}^3$ Mass displaced = $2.35 \times 10^4 \text{ m}^3 \times 1.03 \times 10^3 \text{ kg m}^{-3}$ $= 2.42 \times 10^7 \text{ kg}$ Weight of block = weight displaced $= 2.42 \times 10^7 \text{ kg} \times 9.81 \text{ N kg}^{-1} = 2.37 \times 10^8 \text{ N}$	3
30(b)	(at equilibrium) The weight of the block/iceberg equals the weight of water displaced Or (at equilibrium) The upthrust is equal (in magnitude) to the weight of the block/iceberg Or Upthrust is equal (in magnitude) to the weight of water displaced (1) (So, in lower density seawater,) a greater volume of water must be displaced (for iceberg to float) Or (at equilibrium) density of seawater is inversely proportional to volume of water displaced (1)	2
Total for question 30		5

31(a)	Use of appropriate trigonometry (1) Use of moment of force = Fx (1) Moment = 110 N m (1) <u>Example calculation</u> $580 \text{ N} \times 0.21 \text{ m} \times \cos(24^\circ) = 111 \text{ N m}$	3
31(b)	The horizontal/perpendicular distance between W and the pivot decreases Or The component of W perpendicular to the lever decreases Or $\cos(\theta)$ decreases (from 1 to zero) (1) So the <u>moment</u> (of W about the pivot) decreases and F decreases (to zero) (1)	2
	Total for question 31	5